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QUIZZES

Practice Test-1(d-Block Elements)



10 Questions



7 min

Topics

General characteristics (All), Describe electronic structure of elements and ions of d-Block Elements

Start Quiz

SAEED MDCAT

SAEED MDCAT TEAM



SAEEDMDCAT

06 : 58



1/10



7 min



Hint

Q : Which of the followings contains non-typical transition elements?

A

IB (Cu,Ag,Au)

B

IIB (Zn,Cd,Hg)

C

IIIB (Sc,Y,La)

D

both b & c

SAEED MDCAT

SAEED MDCAT TEAM



SAEEDMDCAT

1

2

3

4

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7

06 : 55



2/10



7 min



Hint

Q : f- block elements are called

A

inner transition

B

outer transition

C

lanthanides & actinides

D

both a & c

SAEED MDCAT

SAEED MDCAT TEAM



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1

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7

06 : 52



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3/10



7 min



Hint

Q : Coinage metals are present in

A

IB (Cu,Ag,Au)

B

IIB (Zn,Cd,Hg)

C

IIIB (Sc,Y,La)

D

both b & c

SAEED MDCAT

SAEED MDCAT TEAM



SAEEDMDCAT

1

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7

06 : 49



4/10



7 min



Hint

Q : The stable states of an orbital are when it is

A

Half filled

B

completely filled

C

Empty

D

both a & b

SAEED MDCAT

SAEED MDCAT TEAM



SAEEDMDCAT

1

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06 : 46



5/10



7 min



Hint

Q : Which group elements usually show single oxidation state.

A

IB

B

IIB

C

VB

D

VIB

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1

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06 : 44



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6/10



7 min



Hint

Q : The number of unpaired electrons present in Cr^{3+} ion is/are:



1



3



2



4

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1

2

3

4

5

6

7

06 : 41



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7/10



7 min



Hint

Q : The number of unpaired electrons present in Cr^{6+} ion is

A

1

B

0

C

2

D

4

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4

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10

06 : 38



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8/10



7 min



Hint

Q : Copper in zero oxidation state has no partially filled d-orbital but still included in transition elements because

A

Its salts are coloured

B

In Cu^{+2} d-sub shell is partially filled

C

It shows variable oxidations state

D

It is a good conductor of heat and electricity

SAEED MDCAT

SAEED MDCAT TEAM



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4

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10

06 : 35



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9/10



7 min



Hint

Q : The ion that is iso-electronic with argon

A

Cr^{4+}

B

Sc^{3+}

C

Ti^{3+}

D

Mn^{2+}

SAEED MDCAT

SAEED MDCAT TEAM



SAEEDMDCAT

4

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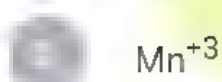
7

8

9

10

Q : Which one of the following ion has $3d^5$ subshell arrangement



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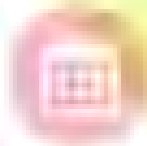


QUIZ RESULT

Practice Test-1(d-Block Elements)



10 min



100%



0/10

0%

SAEED MDCAT

SAEED MDCAT TEAM



SAEEDMDCAT





Correct



Incorrect



Incorrect



1/10

Q : Which of the followings contains non typical transition elements?



I B (Cu,Ag,Au)



II B (Zn,Cd,Hg)



III B (Sc,Y,La)



both b & c

Explanation

SAEED MDCAT TEAM

In tri+ve ions of group IIIB there are no. of electron
s present in d-subshell

In IIB d-subshell is completely filled



correct

2/10

Q : f block elements are called



inner transition



outer transition



lanthanides & actinides



both a & c

Explanation

f-block consist of **Lanthanides** (series starting with element Lanthanum) and **Actinides** (series starting with element Actinium)



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correct



3/10

Q : Coinage metals are present in



IB (Cu,Ag,Au)



IIB (Zn,Cd,Hg)



IIIB (Sc,Y,La)



both b & c

Explanation

IB elements are called coinage metals



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Correct



4/10



Incorrect



4/10

Q : The stable states of an orbital are when it is



Half filled



completely filled



Empty



both a & b

Explanation

Order of stability is

Completely filled > Half filled > Partially filled



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correct



5/10

Q : Which group elements usually show single oxidation state



IB



IIB



VB



VIB

Explanation

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Explanation: General electronic configuration of IIB elements is $(n-1)d^{10}, ns^2$. this means they have completely filled d subshell and ns-subshell. They only show +2 oxidation state



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correct



6/10

Q : The number of unpaired electrons present in Cr^{3+} ion is/are:



1



3



2

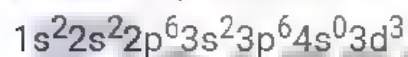


4

Explanation

SAEED MDCAT TEAM

It has 3 unpaired electrons, $_{24}\text{Cr} =$



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correct



7/10

Q : The number of unpaired electrons present in Cr^{6+} ion is



1



0



2



4

Explanation

SAEED MDCAT TEAM

Explanation: ${}_{24}\text{Cr}^{6+} = 1s^2 2s^2 2p^6 3s^2 3p^6 4s^0 3d^0$



SAEEDMDCAT



Correct



Unattempted



Incorrect



8/10

Q : Copper in zero oxidation state has no partially filled d-orbital but still included in transition elements because



Its salts are coloured



In Cu^{+2} d-sub shell is partially filled



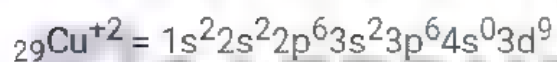
It shows variable oxidations state



It is a good conductor of heat and electricity

Explanation

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correct



9/10

Q : The ion that is iso electronic with argon



Cr^{4+}



Sc^{3+}



Ti^{3+}



Mn^{2+}

Explanation

Argon has 18 electrons. Sc has 21. So, Sc^{3+} have 18 electrons left behind



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correct



10/10

Q : Which one of the following ion has $3d^5$ subshell arrangement



Cr^{+3}



Fe^{+3}



Mn^{+3}

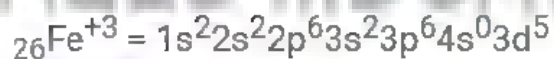


Co^{+3}

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Explanation

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QUIZZES

Practice Test-2(Transition Elements)

Topic

Test

Topics

SAEED MDCAT

SAEED MDCAT TEAM



SAEEDMDCAT

Q : Ti^{3+} salts are purple colored, what is the color of Ti^{4+} salts

- ☒ Colorless
- ☐ Purple
- ☐ Blue
- ☐ Green

SAEED MDCAT

SAEED MDCAT TEAM

SAEEDMDCAT

Q : Strength of binding energy of transition elements depends upon

- ☐ No. of electron pairs
- ☒ no. of unpaired electrons
- ☐ no. of neutrons
- ☐ no. of protons

SAEED MDCAT

SAEED MDCAT TEAM

SAEEDMDCAT

Q : The transition metal which has only colorless compounds

☐ Ti

☐ Cr

☐ Cu

☐ Zn

SAEED MDCAT

SAEED MDCAT TEAM

SAEEDMDCAT

Q : In which of the following compounds iron has lowest oxidation state

- ☐ $[\text{Fe}(\text{NH}_3)_6]\text{SO}_4$
- ☒ $[\text{Fe}(\text{NH}_3)_4(\text{NO}_2)_2]$
- ☐ $[\text{Fe}(\text{CO})_5]$
- ☐ $[\text{Fe}(\text{H}_2\text{O})_6]\text{Cl}_3$

SAEED MDCAT

SAEED MDCAT TEAM

SAEEDMDCAT

Q : When a complex absorb blue light then its colour most probably will be

- ☒ Green
- ☐ Red
- ☐ Yellow
- ☐ Orange

SAEED MDCAT

SAEED MDCAT TEAM

SAEEDMDCAT

Q : Which is bidentate neutral ligand

- ☐ Carbonato
- ☐ Oxalato
- ☐ Acetato
- ☐ Hydrazine

SAEED MDCAT

SAEED MDCAT TEAM

SAEEDMDCAT

Q : The name of $\text{Na}_4[\text{Fe}(\text{CN})_6]$ according to IUPAC system is:

- ☐ Tetrasodium hexacyano ferrate(II)
- ☐ Sodium hexacyano Iron(III)
- ☐ Sodium hexacyano ferrate(II)
- ☐ Sodium hexacyano Iron(II)

SAEED MDCAT

SAEED MDCAT TEAM

SAEEDMDCAT

Q : Potassium hexacyano ferrate (II) is

- ☐ $K_3[Fe(CN)_6]$
- ☐ $K_4[Fe(CN)_6]$
- ☐ both a & b
- ☐ none of these

SAEED MDCAT

SAEED MDCAT TEAM

SAEEDMDCAT

Q : The geometry of PCl_5 is

- ☐ Tetrahedral
- ☐ Square planer
- ☐ Trigonal bipyramidal
- ☐ Octahedral

SAEED MDCAT

SAEED MDCAT TEAM

f SAEEDMDCAT

Q : The coordination number of Platinum in $[\text{Pt}(\text{C}_2\text{O}_4)_2]$ is

☐ 2

☐ 6

☐ 4

☐ 0

SAEED MDCAT

SAEED MDCAT TEAM

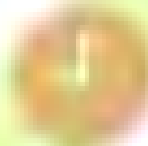
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QUIZ RESULT

Practice Test-2(Transition Elements)



Time



Score



C / 10



0%

SAEED MDCAT

SAEED MDCAT TEAM



SAEEDMDCAT





correct



1/10

Q : Ti^{3+} salts are purple colored, what is the color of Ti^{4+} salts



Colorless



Purple



Blue



Green

Explanation

SAEED MDCAT TEAM

Ti^{4+} has no electrons in d – subshell. For the appearance of color there should be partially filled d-subshell

SAEEDMDCAT



correct



2/10

Q : Strength of binding energy of transition elements depends upon



No. of electron pairs

—



no. of unpaired electrons



no. of neutrons



no. of protons

Explanation

SAEED MDCAT TEAM

Binding energy is directly related to no. of unpaired electrons



SAEEDMDCAT



correct

3/10

Q : The transition metal which has only colorless compounds



Ti



Cr



Cu



Zn

Explanation

SAEED MDCAT TEAM

Zn have completely filled d-subshell



SAEEDMDCAT



Correct



Unanswered



Incorrect



4/10

Q : In which of the following compounds iron has lowest oxidation state



$[\text{Fe}(\text{NH}_3)_6]\text{SO}_4$



$[\text{Fe}(\text{NH}_3)_4(\text{NO}_2)_2]$



$[\text{Fe}(\text{CO})_5]$



$[\text{Fe}(\text{H}_2\text{O})_6]\text{Cl}_3$

Explanation

SAEED MDCAT TEAM

CO is neutral ligand, So, oxidation state of Fe in $[\text{Fe}(\text{CO})_5]$ is zero



SAEEDMDCAT



correct



5/10

Q : When a complex absorb blue light then its colour most probably will be



Green



Red



Yellow



Orange

SAEED MDCAT

SAEED MDCAT TEAM



SAEEDMDCAT



correct



6/10

Q : Which is bidentate neutral ligand



Carbonato



Oxalato



Acetato



Hydrazine

Explanation

Hydrazine ($\text{H}_2\text{N}-\text{NH}_2$) is bi-dentate as well as neutral ligand



SAEEDMDCAT



Correct



Unattempted



Incorrect



7/10

Q : The name of $\text{Na}_4[\text{Fe}(\text{CN})_6]$ according to IUPAC system is:



Tetrasodium hexacyano ferrate(II)



Sodium hexacyano Iron(III)



Sodium hexacyano ferrate(II)



Sodium hexacyano Iron(II)

Explanation

SAEED MDCAT TEAM

The name of $\text{Na}_4[\text{Fe}(\text{CN})_6]$ according to IUPAC system is sodium hexacyano ferrate(II)

SAEEDMDCAT



Correct



Incorrect



Incorrect



8/10

Q : Potassium hexacyano ferrate (II) is



$K_3[Fe(CN)_6]$



$K_4[Fe(CN)_6]$



both a & b



none of these

Explanation

Oxidation state of iron is II



SAEEDMDCAT



Correct



Unanswered



Incorrect



9/10

Q : The geometry of PCl_5 is



Tetrahedral



Square planer



Trigonal bipyramidal



Octahedral

Explanation

It contain dsp^3 hybridization and hence trigonal bipyramidal.



SAEEDMDCAT



Correct



10/10



Incorrect



10/10

Q : The coordination number of Platinum in $[\text{Pt}(\text{C}_2\text{O}_4)_2]$ is



2



6



4



0

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Explanation

SAEED MD CAT TEAM

Explanation: C_2O_4^- is bidentate ligand, it donates 2 electron pair to central metal atom. So, two C_2O_4^- groups donate total 4 electron pairs to Pt. Thus coordination number is 4

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QUIZZES

Practice Test-1(Environmental Chemistry)

10 Questions

1 Hour

10 Marks

Start Quiz

SAEED MDCAT

SAEED MDCAT TEAM



SAEEDMDCAT

Q : On global scale most of SO_2 is produced by

- ☐ Volcanoes
- ☐ Crude oil
- ☐ Petroleum industry
- ☐ Combustion of coal

SAEED MDCAT

SAEED MDCAT TEAM

SAEEDMDCAT

Q : The gas that binds strongly with haemoglobin is

- ☒ Carbon monoxide
- ☐ Methane
- ☐ Carbon dioxide
- ☐ Nitrogen dioxide

SAEED MDCAT

SAEED MDCAT TEAM

 SAEEDMDCAT

Q : Which of the following is incorrect statement

- ☐ The residence time of NO in the atmosphere is 3 days
- ☐ The burning of fuel in presence of air in internal combustion engine also produces NO
- ☐ Gasoline is source of NO emission into atmosphere
- ☐ The anaerobic bacterial action produces NO_x mainly NO

SAEED MDCAT

SAEED MDCAT TEAM

SAEEDMDCAT

Q : Which of the following secondary pollutant is carried down in the form of dust and rain

☐ SO_2

☒ SO_3

☐ NO_2

☐ HNO_3

SAEED MDCAT

SAEED MDCAT TEAM

 SAEEDMDCAT

Q : Following are sources of emission of hydrocarbons into atmosphere by human activities except

- ☐ Paddy fields
- ☐ Coal
- ☐ Solvent evaporator
- ☐ Incinerators

SAEED MDCAT

SAEED MDCAT TEAM

SAEEDMDCAT

Q : Photochemical smog is also known as

- ☐ Redox smog
- ☐ Reducing smog
- ☒ Oxidizing smog
- ☐ All of these

SAEED MDCAT

SAEED MDCAT TEAM

SAEEDMDCAT

Q : Which one of the following is not mainly responsible for acid rain

☐ CO_2

☒ SO_3

☐ SO_2

☐ NO_2

SAEED MDCAT

SAEED MDCAT TEAM

 SAEEDMDCAT

Q : The gas which is three times lighter than air

☐ CO_2

☐ NO

☐ CO

☐ N_2

SAEED MDCAT

SAEED MDCAT TEAM

SAEEDMDCAT



Q : Chlorofluorocarbons (CFCs) are _____ in the troposphere

- ☐ Diffused
- ☐ Active
- ☐ Inert
- ☐ Decomposed

SAEED MDCAT

SAEED MDCAT TEAM

SAEEDMDCAT

Q : Ozone is harmful in

- ☐ Mesosphere
- ☒ Troposphere
- ☐ Stratosphere
- ☐ Thermosphere

SAEED MDCAT

SAEED MDCAT TEAM

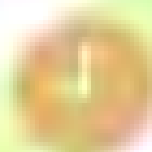
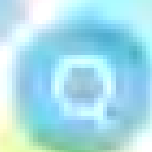
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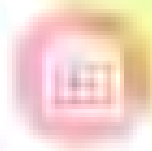


QUIZ RESULT

Practice Test-1(Environmental Chemistry)



Time



Score



C / 10

0%

SAEEDMDCAT

SAEEDMDCAT TEAM



SAEEDMDCAT





Correct



Submitted



Incorrect



1/10

Q : On global scale most of SO_2 is produced by



Volcanoes



Crude oil



Petroleum industry



Combustion of coal

SAEED MDCAT

SAEED MDCAT TEAM



SAEEDMDCAT



correct



2/10

Q : The gas that binds strongly with haemoglobin is



Carbon monoxide



Methane



Carbon dioxide



Nitrogen dioxide

SAEED MDCAT

SAEED MDCAT TEAM



SAEEDMDCAT



Correct



Unattempted



Incorrect



3/10

Q : Which of the following is incorrect statement



The residence time of NO in the atmosphere is 3 days



The burning of fuel in presence of air in internal combustion engine also produces NO



Gasoline is source of NO emission into atmosphere



The anaerobic bacterial action produces NO_x mainly NO

SAEED MDCAT

SAEED MDCAT TEAM



SAEEDMDCAT



correct



4/10

Q : Which of the following secondary pollutant is carried down in the form of dust and rain



SO_2



SO_3



NO_2



HNO_3

SAEED MDCAT

SAEED MDCAT TEAM



SAEEDMDCAT



Correct



5/10

Q : Following are sources of emission of hydrocarbons into atmosphere by human activities except



Paddy fields



Coal



Solvent evaporator



Incinerators

SAEED MDCAT

SAEED MDCAT TEAM



SAEEDMDCAT



correct



6/10

Q : Photochemical smog is also known as



Redox smog



Reducing smog



Oxidizing smog



All of these

SAEED MDCAT

SAEED MDCAT TEAM



SAEEDMDCAT



Practice Test-1(Environmental Chemistry)



Correct



Unattempted



Incorrect



7/10

Q : Which one of the following is not mainly responsible for acid rain



CO₂



SO₃



SO₂



NO₂

SAEED MDCAT

SAEED MDCAT TEAM



SAEEDMDCAT

1

2

3

4

5

6

7



Practice Test-1 (Environmental Chemistry)



Correct



Unattempted



Incorrect



8/10

Q : The gas which is three times lighter than air

A

CO_2

B

NO

C

CO

D

N_2

SAEED MDCAT

SAEED MDCAT TEAM



SAEEDMDCAT

4

5

6

7

8

9

10



Practice Test-1(Environmental Chemistry)



Correct



Unattempted



Incorrect



9/10

Q : Chlorofluorocarbons (CFCs) are _____ in the troposphere

A

Diffused

B

Active

C

Inert

D

Decomposed

SAEED MDCAT

SAEED MDCAT TEAM



SAEEDMDCAT

4

5

6

7

8

9

10



Practice Test-1(Environmental Chemistry)



Correct



Unattempted



Incorrect



10/10

Q : Ozone is harmful in

A

Mesosphere

B

Troposphere

C

Stratosphere

D

Thermosphere

SAEED MDCAT

SAEED MDCAT TEAM



SAEEDMDCAT

4

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